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10/648,336	08/27/2003	Ching-Huei Wu	WUCH3033/EM	5344

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EXAMINER	
WON, BUMSUK	

ART UNIT	PAPER NUMBER
2879	

DATE MAILED: 03/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/648,336	WU ET AL.	
	Examiner	Art Unit	
	Bumsuk Won	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 December 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-4, 6-8, 10-13, 15-16, 18-20, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hinata (US 2002/0118325) in view of Endo (US 6,507,384) and Lu (US 6,559,604).

Regarding claim 1, Hinata discloses a liquid crystal panel device (figure 1), comprising: a substrate (2) having a first conducting area (left portion of the substrate), a second conducting area (right portion of the substrate), a third conducting area (bottom right and left portions of the substrate), and an active area (remaining portion in the center and top where the electrodes (10 and 11) are located of the substrate); wherein said active area locates between said first conducting area and said second conducting area; said third conducting area locates at one side of said active area; said first conducting area, said second conducting area, said third conducting area and said active area are integrated together on the surface of said substrate (figure 1); and said third conducting area locates adjacent to said first conducting area, said second conducting area, and said active area; a plurality of first conducting lines (14 on the left side of the substrate) located in said first conducting area on said substrate; a plurality of second conducting lines (14 on the right side of the substrate) located in said second conducting area on said substrate; a plurality of third conducting lines (14 and 15 on the right and the left bottom sides of the

substrate) located in said third conducting area on said substrate; a plurality of first electrodes (10) located in said active area, wherein said first electrode connects a third conducting line (one of 15 that is on the right and left bottom sides of the substrate); a plurality of second electrodes (11) located in said active area, wherein said second electrode connects a first conducting line or a second conducting line; wherein said first conducting line (14 on the left side of the substrate) connects a third conducting line (one of 14 that is on the left bottom sides of the substrate), said second conducting line (14 on the right side of the substrate) connects a third connecting line (one of 14 that is on the right bottom sides of the substrate), said first electrodes do not directly connect (note figure 2, first electrodes (10) are separated from second electrodes (11) by liquid crystal (23)) said second electrodes (11), and said first conducting lines, said second conducting lines, said third conducting lines (14 and 15 on the right and the left bottom sides of the substrate) and said first electrodes are on the surface of said substrate. Even though Hinata does not disclose the structure disclosed above can be used for organic electroluminescent display device, it is well known in the display device art that the basic panel structure of liquid crystal display device and organic electroluminescent display device are the same except for the light emitting layers are different, liquid crystal display device uses liquid crystal layer while organic electroluminescent display device uses organic electroluminescent layer. Endo discloses liquid crystal display and organic electroluminescent display can be used interchangeably (note column 1, lines 8-10). It is also well know in the organic electroluminescent display device art that organic electroluminescent medium is located in an active area, and the medium is sandwiched between electrodes. Lu discloses organic electroluminescent display panel (note figure 2) with at least one organic electroluminescent medium (note figure 2, item 30) located in said active area

(note figure 1), wherein said organic electroluminescent medium (note figure 2, item 30) is sandwiched between said first electrode (note figure 2, item 20) and said second electrode (note figure 2, item 40), for the purpose of using less power to emit light. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the EL medium structure disclosed by Lu and the idea of using the structure of a liquid crystal display device in an organic electroluminescent display device disclosed by Endo in the liquid crystal display of Hinata, for the purpose of using less power to emit light.

Regarding claim 2, Hinata discloses a bonding unit (page 8, paragraph [0125], lines 10-12, "wiring", and figure 10, 360) located in said third conducting area for bonding at least one integrated circuit (figure 10, 124) or a cable (figure 10, 150).

Regarding claim 3, Hinata discloses integrated circuit (figure 10, 124) is bonded to said bonding unit (page 8, paragraph [0125], lines 10-12, "wiring", and figure 10, 360) through chip on glass (COG) sealing (page 10, paragraph [0142], lines 1-2).

Regarding claim 4, Hinata discloses the number of said first conducting lines (figure 1, 14 on the left portion of substrate (2) shows 5 conducting lines that connect electrodes (11) and driver IC (7)) is equal to that of said second conducting lines (figure 1, 14 on the right portion of substrate (2) shows 5 conducting lines that connect electrodes (11) and driver IC (7)).

Regarding claim 6, Lu discloses an organic electroluminescent device with a pixel-defining layer (figure 2, 60) located between said organic electroluminescent medium (30) to define the pixel area and said first electrode (20) in said active area. The reason for combining is the same as for claim 1 above.

Regarding claim 7, Lu discloses an organic electroluminescent device with a plurality of auxiliary electrodes (figure 1, 70) located on the surface of or embedded in said first electrodes (20), and said auxiliary electrodes (70) are used to increase the current density of the first electrodes. The reason for combining is the same as for claim 1 above.

Regarding claim 8, Lu discloses an organic electroluminescent device with a plurality of isolating walls (column 5, line 53, "ramparts", and figure 2, 50) located on the surface of said pixel-defining layer (figure 2, 60). The reason for combining is the same as for claim 1 above.

Regarding claim 10, Hinata discloses a liquid crystal panel device (figure 1), comprising: a substrate (2) having a first conducting area (left portion of the substrate), a second conducting area (right portion of the substrate), a third conducting area (bottom right and left portions of the substrate), and an active area (remaining portion in the center and top where the electrodes (10 and 11) are located of the substrate); wherein said active area locates between said first conducting area and said second conducting area; said third conducting area locates at one side of said active area; said first conducting area, said second conducting area, said third conducting area and said active area are integrated together on the surface of said substrate (figure 1); and said third conducting area locates adjacent to said first conducting area, said second conducting area, and said active area; a plurality of first conducting lines (14 on the left side of the substrate) located in said first conducting area on said substrate; a plurality of second conducting lines (14 on the right side of the substrate) located in said second conducting area on said substrate; a plurality of third conducting lines (14 and 15 on the right and the left bottom sides of the substrate) located in said third conducting area on said substrate; a plurality of first electrodes (10) located in said active area, wherein said first electrode connects a third conducting line (one

of 15 that is on the right and left bottom sides of the substrate); a plurality of second electrodes (11) located in said active area, wherein said second electrode connects a first conducting line or a second conducting line; a first film (figure 10, 150) embedded with a plurality of fourth conducting lines (not shown, however, it would be obvious to have any type of conducting lines in the first film since the purpose of having first film is to conduct power or signal to main controller), wherein said fourth conducting lines are electrically connected (figure 10, 370) with said third conducting lines (figure 1, 15), at least part of the pins of an integrated circuit, or a combination thereof (figure 10, first film is connected with item 370 which is connected with driver IC (124) and also connected with part of third conducting lines (360)). Even though Hinata does not disclose the structure disclosed above can be used for organic electroluminescent display device, it is well known in the display device art that the basic panel structure of liquid crystal display device and organic electroluminescent display device are the same except for the light emitting layers are different, liquid crystal display device uses liquid crystal layer while organic electroluminescent display device uses organic electroluminescent layer. Endo discloses liquid crystal display and organic electroluminescent display can be used interchangeably (note column 1, lines 8-10). It is also well know in the organic electroluminescent display device art that organic electroluminescent medium is located in an active area, and the medium is sandwiched between electrodes. Lu discloses organic electroluminescent display panel (note figure 2) with at least one organic electroluminescent medium (note figure 2, item 30) located in said active area (note figure 1), wherein said organic electroluminescent medium (note figure 2, item 30) is sandwiched between said first electrode (note figure 2, item 20) and said second electrode (note figure 2, item 40), for the purpose of using less power to emit light. It would

have been obvious to one of ordinary skill in the art at the time the invention was made to use the EL medium structure disclosed by Lu and the idea of using the structure of a liquid crystal display device in an organic electroluminescent display device disclosed by Endo in the liquid crystal display of Hinata, for the purpose of using less power to emit light.

Regarding claim 11, Endo discloses an electro-optical device comprising, in part, a printed circuit board (figure 9, 3), and said pins (12) of said integrated circuit (10) connect with said printed circuit board (3), for the purpose of mounting various types of electronic parts (column 2, lines 20-22, and figure 9) so that the display device is functional. The reason for combining is the same as for claim 10 above.

Regarding claims 12 and 15, Endo discloses an electro-optical device wherein said pins (figure 9, 12) of said integrated circuit (10) and said printed circuit board (3) are connected through anisotropic conductive films (column 2, lines 4-26). The reason for combining is the same as for claim 10 above.

Regarding claim 13, Endo discloses an electro-optical device comprising, in part, a printed circuit board (figure 9, 3) and a second films (5), wherein part of said pins (14) of said integrated circuit (13) connects with said second film (5), said printed circuit board (3) electrically connects said second films (5). The reason for combining is the same as for claim 10 above.

Regarding claim 16, Hinata discloses the number of said first conducting lines (note figure 1, item 14 on the left portion of substrate (2) shows 5 conducting lines that connect electrodes (11) and driver IC (7)) is equal to that of said second conducting lines (figure 1, 14 on

the right portion of substrate (2) shows 5 conducting lines that connect electrodes (item 11) and driver IC (item 7)).

Regarding claim 18, Lu discloses an organic electroluminescent device with a pixel-defining layer (figure 2, 60) located between said organic electroluminescent medium (30) to define the pixel area and said first electrode (20) in said active area, for the purpose of isolating first and second electrodes. The reason for combining is the same as for claim 10 above.

Regarding claim 19, Lu discloses an organic electroluminescent device with a plurality of auxiliary electrodes (figure 1, 70) located on the surface of or embedded in said first electrodes (20), and said auxiliary electrodes 70) are used to increase the current density of the first electrodes. The reason for combining is the same as for claim 10 above.

Regarding claim 20, Lu discloses an organic electroluminescent device with a plurality of isolating walls (column 5, line 53, "ramparts", and figure 2, 50) located on the surface of said pixel-defining layer (figure 2, 60), for the purpose of separating side-deposited cathode materials from anodes (note column 5, lines 52-56). The reason for combining is the same as for claim 10 above.

Regarding claim 22, Endo disclose an electro-optical device comprising, in part, a plurality of fifth conducive lines (not shown, however, it would be obvious to have any type of conducting lines in the first film since the purpose of having first film is to conduct power or signal to main controller) embedded in said first film (figure 9, 4), wherein said fourth conducting lines (not shown, however, it would be obvious to have any type of conducting lines in the first film since the purpose of having first film is to conduct power or signal to main

controller) and said fifth conducting lines (not shown, however, it would be obvious to have any type of conducting lines in the first film since the purpose of having first film is to conduct power or signal to main controller) do not connect to each other directly (power lines and signal lines would not be connected directly for obvious reasons), part of pins (12) of said integrated circuit (10) electrically connects to said fourth conducting lines, and the other part of pins (10) of said integrated circuit electrically connects to said fifth conducting lines.

2. Claims 5 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hinata (US 2002/0118325) in view of Endo (US 6,507,384) and (US 6,559,604), in further view of Hsieh (US 2002/0177249).

Regarding claims 5 and 17, Hinata in view of Endo and Lu disclose all of the claimed limitations except for conducting lines are selected from Al, Cr, Ag, and alloys thereof. Hsieh discloses a display panel that conducting lines (note figure 1A, item 12b) are aluminum (note page 1, paragraph [0006], line 2, "aluminum", and figure 1A, item 12b), for the purpose of conducting without too much voltage drop across the conducing lines. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use aluminum for conducting lines to connect electrodes disclosed by Hsieh in the display of Hinata in view of Endo and Lu, for the purpose of conducting without too much voltage drop across the conducing lines.

3. Claims 9 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Endo (US 6,507,384) and Hinata (US 2002/0118325) in view of Endo (US 6,507,384) and Lu (US 6,559,604), in further view of Ogura (US 6,924,594).

Regarding claims 9 and 21, Regarding claims 5 and 17, Hinata in view of Endo, in further view of Lu disclose all of the claimed limitations except for a barrier cover located above said active area for preventing said organic electroluminescent medium from the moisture, oxygen, oxide, or sulfide in the air, and said cover is bonded with said panel through sealing. Ogura discloses an electroluminescent panel that a barrier cover (figure 1b, 102) located above said active area (106) for preventing said organic electroluminescent medium (105) from the moisture, oxygen, oxide, or sulfide in the air, and said cover is bonded with said panel through sealing (column 3, lines 28-32). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a barrier cover in an electroluminescent panel disclosed by Ogura in the display of Hinata in view of Endo and Lu, for the purpose of providing a structure into which moisture and oxygen are not introduced, thus increasing the lifetime of the panel.

4. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over and Hinata (US 2002/0118325) in view of Endo (US 6,507,384) and Lu (US 6,559,604), in further view of Holland (US 4,217,020).

Regarding claim 14, Regarding claims 5 and 17, Hinata in view of Endo, in further view of Lu disclose all of the claimed limitations except for an organic electroluminescent device comprising, in part, a printed circuit board and a film, wherein part of said pins extends from said integrated circuit and is embedded in said second film, and said extended pins embedded in said second film connect to said printed circuit board. Holland discloses a printed circuit board (figure 2, item 26) and a film (34), wherein part of pins (36) extends from integrated circuit (item 20) and is embedded in film (34), and extended pins (36) embedded in film (34) connect to said

printed circuit board (26), for the purpose of electrically connecting display panel with controller in the printed circuit board so that the display device is functional. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a printed circuit board and a film, wherein part of pins extends from integrated circuit and is embedded in film, and extended pins embedded in film connect to said printed circuit board in an organic electroluminescent device disclosed by Holland in the display of Hinata in view of Endo and Lu, for the purpose of electrically connecting display panel with controller in the printed circuit board so that the display device is functional.

5. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hinata (US 2002/0118325) in view of Endo (US 6,507,384) and (US 6,559,604), in further view of Kawaguchi (US 5,400,221).

Regarding claim 23, Hinata in view of Endo and Lu disclose all of the claimed limitations except for said first film is a hard film for tape carrier package (TCP). Kawaguchi discloses a hard film (note column 3, line 47, "PCB", and figure 2A, item 12) for tape carrier package (note column 3, lines 45-48, and figure 2A, item 4), for the purpose of having structural ruggedness in the film in order to achieve higher reliability of the panel. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use first film as a hard film for tape carrier package disclosed by Kawaguchi in the display of Hinata in view of Endo and Lu, for the purpose of having structural ruggedness in the film in order to achieve higher reliability of the panel.

6. Claims 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hinata (US 2002/0118325) in view of Endo (US 6,507,384) and Lu (US 6,559,604), in further view of Katsumata (US 6,826,016).

Regarding claims 24 and 25, Hinata in view of Endo and Lu disclose all of the claimed limitations except for further comprising plural electrically passive devices bonded on said fourth conducting lines on said first film, and electrically passive devices are capacitors or resistors. Katsumata discloses film (note column 6, lines 44-47, "FPC, or flexible printed circuit board", and figure 14, item 52) with capacitors (note figure 14, item 96) bonded on conducting lines (note figure 14, item 28), for the purpose of smoothing the power source (note column 1, lines 60-63) so that the electrical noise is lessened. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use capacitors or plural electrically passive devices bonded on conducting lines on a first film disclosed by Katsumata in the display of Hinata in view of Endo and Lu, for the purpose of smoothing the power source so that the electrical noise is lessened.

Response to Amendment

Regarding remarks on page 9, lines 4-12, receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Regarding remarks on page 9, lines 13-17, the amendment of title of the invention is acknowledged.

Regarding remarks on page 9, lines 18-22, the amendment of claim 6 is acknowledged. However, in order for claim 6 to be enabling, "a pixel-defining layer located between said organic electroluminescent medium to define the pixel area of said active area" should be written

such as "a pixel-defining layer located between said organic electroluminescent medium and said first electrode to define the pixel area of said active area" as shown in figure 4 of drawing. For examining purpose, it will be assumed that claim 6 is written as such.

Regarding remarks on page 9, lines 23-26, the amendment of claim 1 of obvious typographical error is acknowledged.

Response to Arguments

Applicant's arguments filed 12/22/2005 have been fully considered but they are not persuasive.

Regarding remarks on page 11, lines 14-28, Applicant argues that Hinata does not disclose first and second conducting lines connect third conducting lines. However, figure 1 of Applicant's drawing and figure 1 of Hinata both show that third conducting lines are extension of first and second conducting lines. Therefore, there are no difference between Applicant's claim of first and second conducting lines being connected to third conducting lines and Hinata's conducing lines being extended from side part of the substrate to bottom part of the substrate.

Regarding remarks on page 11, line 29 through page 13, line 8, Applicant argues that secondary references of Hinata does not remedy the claim limitation that first and second conducting lines connect third conducting lines. For reasons set forth above, applicant's argument have not been found persuasive. Therefore, examiner maintains original rejection.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bumsuk Won whose telephone number is 571-272-2713. The examiner can normally be reached on Monday through Friday, 8:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Bumsuk Won
Patent Examiner

JOSEPH WILLIAMS
PRIMARY EXAMINER